

REMARKS

Claims 14 and 16 are amended to correct their dependency.

Claim 13 is canceled.

No new matter is added.

Upon entry of the above amendments, which are respectfully requested, claims 1, 4, 6-12, and 14-20 will be pending.

Objection to the Claims

On page 2 of the Office Action, claims 14 and 16 are objected to as depending upon claim 3, which is canceled. The Examiner treated the claims as if they depended from claim 1 for the purpose of the last Office Action.

Applicant respectfully submits that the amendment to claims 14 and 16 overcomes this objection. In particular, present claims 14 and 16 no longer depend from a canceled claim.

Withdrawal of the objection to claims 14 and 16 is respectfully requested.

Obviousness Rejections

On page 3 of the Office Action, claims 1, 4 and 6-17 are rejected under 35 U.S.C. § 103(a) over “Petritsch” (U.S. Patent No. 6,340,789) in view of “Stossel” (U.S. Patent No. 7,223,484) as evidenced by “Asfandiarov” (Investigation of Electron Structure of 2,1,3-Benzothiadiazole Derivatives by Means of Negative Ion Mass Spectrometry, Photoelectron Spectroscopy and Absorption Spectroscopy; Rapid Commun. Mass Spectrom. 12, 595-602, 1998), “Nakaya” (U.S. Patent No. 5,792,557) and “Kimura” (U.S. Patent Application Publication 2003/0072965).

On page 14 of the Office Action, claims 18-20 are rejected under 35 U.S.C. § 103(a) over Petritsch in view of Stossel as evidenced by Asfandiarov, Nakaya, and Kimura as applied to claim 17, and further in view of “Iwasaki” (U.S. Patent Application Publication 2003/0209651).

In response, Applicant submits the following.

Claim 1 currently recites that “wherein said at least one electron transporting organic material is a compound represented by formula (I).” See Amendment submitted on July 10, 2009.

The Examiner acknowledges that Petritsch does not explicitly teach that “said at least one electron transporting organic material is a compound represented by formula (I)”, as recited in claim 1. See page 3, paragraph 6 of the present Office Action.

The presently claimed invention achieves an unexpectedly superior result (that is, high quantum efficiency) by using the compound which is represented by formula (I) and has the ionization potential of 5.8eV or more as an electron transporting organic material. Such an unexpected result is shown in Table 1 of the present specification, which is reproduced below from page 67 of the original specification for the Examiner’s convenience.

Table 1

	Compound A	Alq	Compound 119	Compound B	Compound C	Compound D	Compound 21
Ionization potential	5.3	5.8	6.1	6.1	6.2	6.3	7.5
Quantum efficiency	17%	20%	30%	29%	32%	31%	46%

Regarding the issue of criticality, Table 1 shows that an increase of quantum efficiency of

18% (increasing from 17% to 20%) is achieved when a corresponding increase in the difference in ionization potential increases by 9% (from 5.3 to 5.8). Further, an increase of quantum efficiency of 50% (increasing from 20% to 30%) is achieved when the corresponding increase in the difference in ionization potential increases by 5% (from 5.8 to 6.1). Applicant respectfully submit that these results clearly constitute unexpectedly superior results.

Thus, even if a *prima facie* case of obviousness had been established, *arguendo*, Applicant respectfully submits that such unexpectedly superior results as shown in Table 1 are sufficient to rebut such a *prima facie* case of obviousness.

Regarding dependent claims 6-11, the Examiner alleges that compounds represented by formulas (III) to (XI) are taught by Kimura. See pages 8-12, paragraphs 27 and 28 of the Final Office Action. However, Applicant respectfully submits that *at least* the compound represented by formula (VIII) recited in claim 9 is not taught by Kimura.

If the Examiner maintains the rejection of claim 9, the Examiner is kindly requested to explain exactly where in Kimura the Examiner has found a teaching of formula (VIII).

In view of the above, Applicant respectfully submits that the presently claimed invention is non-obvious over the cited references. Reconsideration and withdrawal of the § 103 obviousness rejections are respectfully requested.

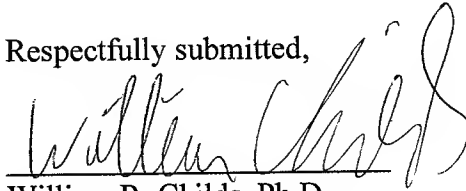
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.116
Application No.: 10/593,960

Attorney Docket No.: Q97019

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "William Childs", written over a horizontal line.

William R. Childs, Ph.D.
Registration No. 62,316

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON DC SUGHRUE/265550

65565

CUSTOMER NUMBER

Date: January 28, 2010